

Serial No.: 10/041,849

REMARKS

Thorough examination and careful review of the application by the Examiner is noted and appreciated.

Claims 1-9 are pending in the application. Claims 1-9 stand rejected.

Objection To The Claims

Claims 3 and 4 have been amended to alleviate the Examiner's objections due to informalities in the claim language.

Claims 1-9 have been amended to remove "for robot teaching" in the preamble.

Claim Rejections Under 35 USC §103

Claims 1-9 are rejected under 35 USC §103(a) as being unpatentable over Shatas in view of Beckhart et al. It is contended that Shatas shows substantially the claim structure except the recited plurality of sensors being located in a housing in the front panel of the cassette. The Examiner further contended that Beckhart teaches the option of placing optical sensors in a variety of locations on a cassette tool to calibrate a robot.

The rejection of claims 1-9 under 35 USC §103(a) based on Shatas and Beckhart is respectfully traversed.

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Shatas discloses a robot that has a movable arm which is taught precise position data for the various locations it must attain during operation. The robot arm is provided with an end effector which is used to grip the object being transported by the robot. The teaching of the robot arm is achieved when a modified section of the end effector is lined-up with a vertical locating beam. Similarly, vertical position is achieved by using a second locating signal when detected at the front edge of the end effector. The Shatas device therefore is used to align an end effector, and not to align an object (such as a wafer) carried by the end effector, such as that taught by the present invention. Moreover, Shatas does not teach an optical detector housing mounted on an opening in the front panel of a cassette pod for receiving an optical detector, such as that clearly recited in the present invention independent claim 1:

"1. A calibration cassette pod for robot teaching comprising:
a cassette pod body ...;
a first plurality of ribs ... ;
an optical detector housing mounted on an opening in said front panel adapted for receiving an optical detector therein; and
an optical detector."

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The structure of the present invention device, i.e. specifically the location of the optical detector housing that is mounted in the front panel is critical for the execution of the present invention calibration method. Since only the present invention structure (with the optical detector housing mounted in the front panel) enables one to actually detect the farthest reach of a robot arm, or the farthest reach of a wafer edge, such that any undesirable impact of the wafer edge with the cassette pod can be avoided. The criticality of the location of the optical detector housing in the cassette pod therefore negates any argument that mounting of such housing would be an obvious choice of design.

Beckhart discloses a tool for aligning a robot arm to a cassette which utilizes an aligning tool 50 (Fig. 3) which has a housing 52 for holding a handheld computer 56. The tool 50 includes a number of sensors for detecting a tilt in the wafer (col. 3, lines 24-43). The applicants respectfully submit that the Beckhart's device does not have an optical detector housing mounted in a front panel of the cassette, and is not capable of detecting the position of a wafer edge portion. The applicants therefore respectfully submit that the present invention independent claim 1

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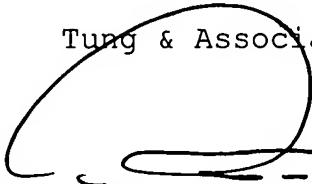
is not rendered obvious by Shatas and Beckhart, either singularly or in combination thereof. A reconsideration for allowance of claims 1-9 is respectfully requested of the Examiner.

Based on the foregoing, the Applicant respectfully submits that all of the pending claims, i.e. claims 1-9, are now in condition for allowance. Such favorable action by the Examiner at an early date is respectfully solicited.

In the event that the present invention is not in a condition for allowance for any other reasons, the Examiner is respectfully invited to call the Applicants' representative at his Bloomfield Hills, Michigan office at (248) 540-4040 such that necessary action may be taken to place the application in a condition for allowance.

Respectfully submitted,

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